



PRODUCT TECHNICAL STATEMENT

Incorporating BPIR requirements as per
Building Product Information Regulations 2022

PAM-Ensign cast-iron pipe & fittings

Supplied by Hydroflow

HYDROFLOW DISTRIBUTORS LTD
221 Bush Road
Rosedale, Albany, North Shore
Auckland
Tel: +64 9 415 6151

The PAM Building business unit is part of a multinational business, which is focused on building drainage solutions, mains water pipelines and road access covers and gratings. The PAM Building business is part of the Saint-Gobain Group which specialises in the supply and manufacture of a vast range of products for the building sector across the world. The PAM business was Saint-Gobain's first acquisition and therefore our business is commonly known as 'Saint-Gobain PAM', however this part of the business now has a new brand, PAM Building.

[PAM-Ensign](#) and [Hydroflow](#)

This PTS covers all of the products supplied by Hydroflow, on behalf of PAM-Ensign, in New Zealand.

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

Revision control

Revision number	Revision information	Date
v1	New PTS (BPIR)	12 December 2023

Contents

PAM-Ensign cast-iron pipe & fittings	1
Revision control	2
Purpose and use	3
Product description	3
Key advantages	3
Technical Information, Installation Instructions, Maintenance Instructions	3
PAM-Ensign cast-iron pipe & fittings QA processes	3
Contribution to Compliance	4
NOTE Re WaterMark	5
Design, construction and installation instructions	6
Installation Instructions	6
Maintenance requirements	6
Warranty	6
Limitations	6
Quality assurance	6
Product support	6
Manufacturer	7
Warnings and Bans	7
Appendix 1 – ISO 9001 certificate	8
Appendix 2 – WaterMark certificates	10
Appendix 3 – An example of Installation Instructions	15
Appendix 4 – Terms and conditions of sale, including warranty statement	24

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

Purpose and use

PAM-Ensign cast-iron pipe & fittings for use in plumbing (drainage) applications.

Product description

PAM-Ensign cast-iron pipe & fittings complies with the NZBC as shown below in the BPIR section.

A full product listing is available on the Hydroflow website, specifically for drainage couplings and associated products: [Hydroflow](#) and [PAM Building | Cast iron pipe and fittings](#)

Key advantages

Technical Information, Installation Instructions, Maintenance Instructions

All PAM-Ensign cast-iron pipe & fittings technical information is available for download at the website:

[PAM-Ensign](#)

Information available as follows:

- Technical information
- Installation and maintenance instructions
- BIM information
- Product guides
- Catalogues
- Product standards certifications
- Etc.

PAM-Ensign recommends that all installation is done by a registered plumber.

PAM-Ensign cast-iron pipe & fittings QA processes

PAM-Ensign cast-iron pipe & fittings undertake testing and inspections of all products as part of the QA requirements.

PAM-Ensign Australia has an extensive range of products that are WaterMark certified to:

WM002732 to AS/NZS 3718:2005 Water supply- Tapware

WM002735 to BSI EN 877:1999 Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance

WM032254 to AS/NZS 2280:2020 Ductile iron pipes and fittings

WM032288 to AS/NZS 2638:2011 Gate valves for waterworks purposes Part 2: Resilient seated

See Appendix 1

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

Contribution to Compliance

PAM-Ensign cast-iron pipe & fittings are in full compliance with the requirements as set out in the New Zealand Building Code, as follows:

Building code	Requirement	Compliance evidence
<p>B2 (Durability)</p> <p>B2.3.1 (c) applies</p>	<p>(B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:</p> <p>(b) 15 years if:</p> <p>(i) Those building elements (including the building envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, or</p> <p>(ii) Failure of those building elements to comply with the building code would go undetected during normal use of the building but would be easily detected during normal maintenance.</p> <p>(c) 5 years if:</p> <p>(i) The building elements (including services, linings, renewable protective coatings, and fixtures) are easy to access and replace, and</p> <p>(ii) Failure of those building elements to comply with the building code would be easily detected during normal use of the building.</p>	<p>As part of a plumbing system for supply of cold, hot or mixed water temperatures.</p> <p>These products can be used in residential and/or commercial buildings where cold, hot or mixed water temperatures water is required to be supplied.</p> <p>Not suitable for use in areas which are being permanently concealed such as behind concrete.</p> <p>Maintenance required is shown in the Maintenance and Installation Instructions.</p> <p>Proof of durability – Service history PAM-Ensign products have been manufactured and supplied worldwide for 150 years.</p> <p>Warranty calls are at a minimum and within the quality principles of PAM-Ensign. All Warranty claims are investigated, and corrective/preventive actions are implemented.</p> <p>Products that are WaterMark certified are subject to various performance testing, including endurance.</p>

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

		Refer warranty statement (Terms and Conditions) as shown
G13 (Foul water) G 13.3.1	G13.3.1 The plumbing system shall be constructed to: a) convey foul water from buildings to a drainage system, b) avoid the likelihood of blockage and leakage, c) avoid the likelihood of foul air and gases entering buildings, and d) provide reasonable access for maintenance and clearing blockages.	PAM-Ensign cast-iron pipe & fittings comply with various AS/NZS standards (WaterMark Certificates as example can be found in Appendix 2)

NOTE Re WaterMark

WaterMark is not compulsory for the New Zealand market. The products listed in these WaterMark certificates, as shown below.

It must be noted that all PAM-Ensign products comply with the various requirements as stated above for the NZBC.

Products supplied into the New Zealand market might not be listed on these certificates but can be imported and used within the New Zealand building industry.

Refer WaterMark certificate and schedule of products

WM002732 to AS/NZS 3718:2005 Water supply – Tapware

[IAPMO Oceania PLD](#)

WM002735 to BSI EN 877:1999 Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance

[IAPMO Oceania PLD](#)

WM032254 to AS/NZS 2280:2020 Ductile iron pipes and fittings

[IAPMO Oceania PLD](#)

WM032288 to AS/NZS 2638:2011 Gate valves for waterworks purposes Part 2: Resilient seated

[IAPMO Oceania PLD](#)

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

See Appendix 2

A list of product standards that PAM-Ensign products complies with are shown in Appendix 3.

Design, construction and installation instructions

Installation Instructions

PAM-Ensign cast-iron pipe & fittings installation is to be done by registered plumbers. Installation Instructions are supplied with the product.

[Documentation | PAM Drainage solutions | PAM Building](#)

For an example of an Installation Instructions, see Appendix 3.

Maintenance requirements

Service/cleaning instructions are available for download as mentioned above for all PAM-Ensign cast-iron pipe & fittings – see [Documentation | PAM Drainage solutions | PAM Building](#)

Warranty

PAM-Ensign products have, in general, a 1-year warranty.

[Documentation | PAM Drainage solutions | PAM Building](#)

Refer Appendix 3.

Limitations

Limitations and use are specified in the technical information sheets obtainable from the website and differs by product.

Quality assurance

The following certifications has been accredited to the product and/or manufacturer.

PAM-Ensign has a variety of certifications including:

- ISO 9001 certification
- WaterMark certification

Product support

Product data available are as shown above in section: Technical Information, Installation Instructions, Maintenance Instructions.

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

Full product support can be found at:

HYDROFLOW DISTRIBUTORS LTD
221 Bush Road
Rosedale, Albany, North Shore
Auckland
Tel: +64 9 415 6151

Manufacturer

All PAM-Ensign products are manufactured by PAM-Ensign USA: [PAM-Ensign](#) and imported and distributed by Hydroflow.

PAM Building
Holyhead Road
Ketley
Telford
Shropshire
TF1 5AD

Warnings and Bans

There is no warning or ban applicable on any PAM-Ensign products, subject to the Building Act 2004, Section 26.

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

Appendix 1 – ISO 9001 certificate



Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023



Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Saint-Gobain Construction Products Ltd
T/A PAM Building
Holyhead Road
Telford
TF1 5AD
United Kingdom

Holds Certificate Number: FM 756208

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The design, manufacture and supply of grey and ductile iron castings for the evacuation of water from buildings.

For and on behalf of BSI:

Matt Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 1991-07-19

Latest Revision Date: 2023-12-04

Effective Date: 2023-11-30

Expiry Date: 2026-11-29



Page: 1 of 1

...making excellence a habit.™

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated [online](#).
Printed copies can be validated at www.bsigroup.com/ClientDirectory

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
A Member of the BSI Group of Companies.

Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

Appendix 2 – WaterMark certificates

WM002732 to AS/NZS 3718:2005 Water supply – Tapware

[IAPMO Oceania PLD](#)

WM002735 to BSI EN 877:1999 Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance

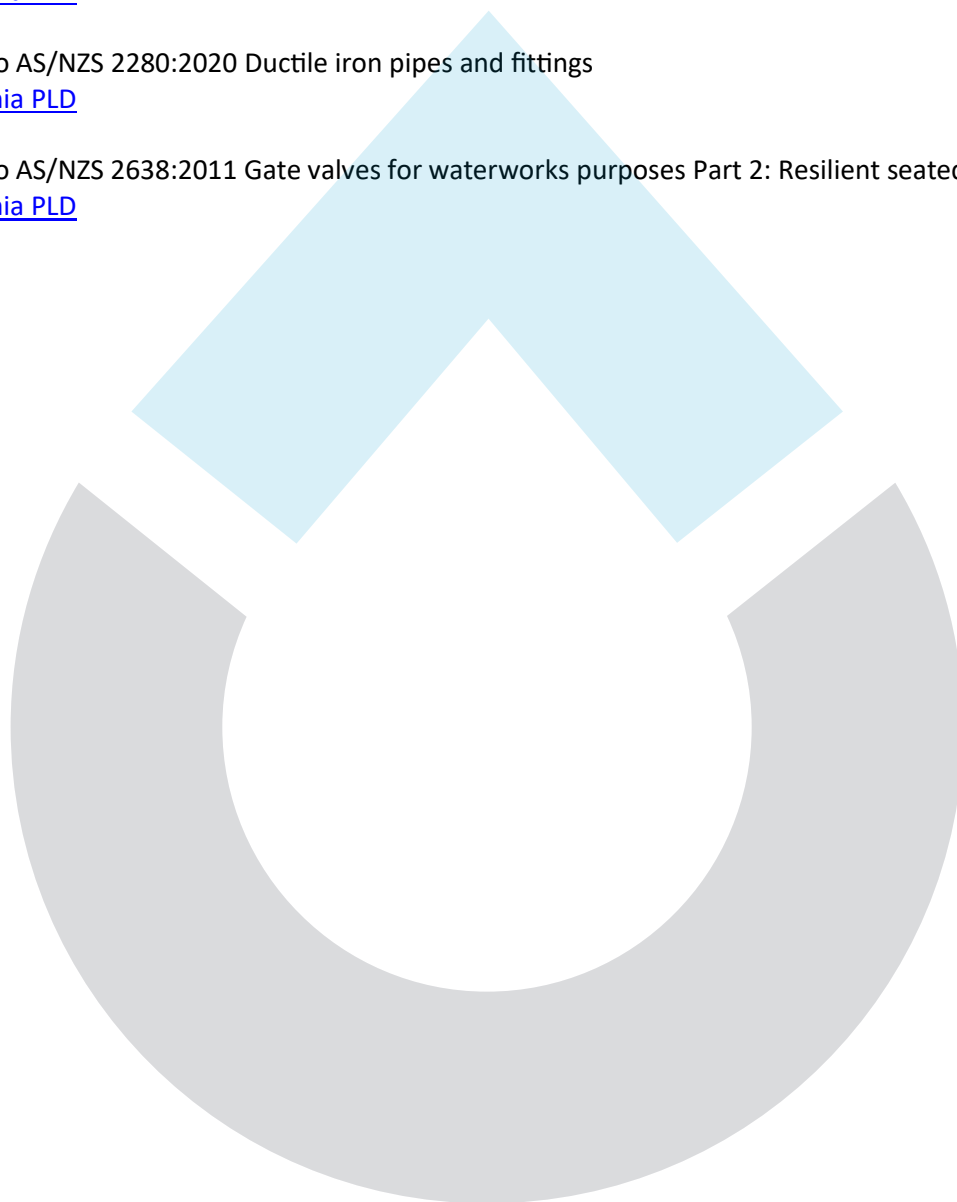
[IAPMO Oceania PLD](#)

WM032254 to AS/NZS 2280:2020 Ductile iron pipes and fittings

[IAPMO Oceania PLD](#)

WM032288 to AS/NZS 2638:2011 Gate valves for waterworks purposes Part 2: Resilient seated

[IAPMO Oceania PLD](#)



Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

IAPMO OCEANIA

7-11 Fullard Road, Narre Warren, Victoria 3805 Australia



IAPMO Oceania is a product certification body which inspects and arranges for the independent laboratory testing of samples taken from the manufacturer's stock or from the market or a combination of both, to verify compliance of the requirements of applicable Standards and Specifications. This activity is coupled with periodic surveillance of the certified product taken from the market place or the manufacturer's factory. This certification is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Oceania of the product acceptance by Authorities Having Jurisdiction.

CERTIFICATE OF CONFORMITY

IAPMO Oceania hereby grants to:

Guo Yuan Hardware Co., Ltd.

No. 66, Lane 384, Sec. 3, Chang Tsau Road Ho Mei, Chang Hua Taiwan

the right to use the WaterMark in accordance with the ABCB Manual for the WaterMark Certification Scheme; Australian Standards WaterMark Technical Specifications and the Plumbing Code of Australia; only in respect of the certified products as described in the WaterMark Certificate of Conformity - Schedule of Certified Product (Refer also IAPMO Product Listing Directory). The Certificate is granted subject to the rules governing the WaterMark Certification Scheme and the Terms and Conditions of the Approved User Agreement and IAPMO Oceania's WaterMark Governance Rules.

Evaluated to:

**AS/NZS 3718:2005 (Inc. Amdt 1&2)
Water supply - Tap ware**

Manufacturer:

Guo Yuan Hardware Co., Ltd.

Licence No.: WM-002732

First Certified: 14 May 1990

Certification Date: 03 August 2021

Expiry Date: 13 May 2025

CEO, The IAPMO Group

This WaterMark certification is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO Oceania, or any evidence of non-compliance with applicable Standards, Specifications or of inferior workmanship, may be deemed sufficient cause for revocation of this certification. Reproduction of or reference to this certificate for advertising purposes may be made only by specific written permission of IAPMO Oceania. Any alteration of this certificate could be grounds for revocation of this certification.

This certificate is issued by a JAS-ANZ accredited Conformity Assessment Body. The ABCB and JAS-ANZ do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The ABCB disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate.

IAPMO OCEANIA

7-11 Fullard Road, Narre Warren, Victoria 3805 Australia



IAPMO Oceania is a product certification body which inspects and arranges for the independent laboratory testing of samples taken from the manufacturer's stock or from the market or a combination of both, to verify compliance of the requirements of applicable standards and specifications. This activity is coupled with periodic surveillance of the certified product taken from the market place or the manufacturer's factory. This certification is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Oceania of the product acceptance by authorities having jurisdiction.

CERTIFICATE OF CONFORMITY

IAPMO Oceania hereby grants to:

Saint-Gobain PAM

21 Avenue Camille Cavallier - BP 129 - 54705 PONT-A-MOUSSON, Cedex, 54700 France

the right to use the WaterMark in accordance with the ABCB Manual for the WaterMark Certification Scheme; Australian Standards WaterMark Technical Specifications and the Plumbing Code of Australia; only in respect of the certified products as described in the WaterMark Certificate of Conformity - Schedule of Certified Product (Refer also IAPMO Product Listing Directory). The Certificate is granted subject to the rules governing the WaterMark Certification Scheme and the Terms and Conditions of the Approved User Agreement and IAPMO Oceania's WaterMark Governance Rules.

Evaluated to:

BSI EN 877:1999

Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance

Manufacturer:

Refer to Licence Holder

Licence No.: WM-022735

First Certified: 15 July 2020

Certification Date: 15 July 2020

Expiry Date: 14 July 2025


CEO, The IAPMO Group

This WaterMark certification is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO Oceania, or any evidence of non-compliance with applicable standards, specifications or of inferior workmanship, may be deemed sufficient cause for revocation of this certification. Reproduction of or reference to this certificate for advertising purposes may be made only by specific written permission of IAPMO Oceania. Any alteration of this certificate could be grounds for revocation of this certification.

This certificate is issued by a JAS-ANZ accredited Conformity Assessment Body. The ABCB and JAS-ANZ do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The ABCB disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate.

IAPMO OCEANIA

7-11 Fullard Road, Narre Warren, Victoria 3805 Australia



IAPMO Oceania is a product certification body which inspects and arranges for the independent laboratory testing of samples taken from the manufacturer's stock or from the market or a combination of both, to verify compliance of the requirements of applicable Standards and Specifications. This activity is coupled with periodic surveillance of the certified product taken from the market place or the manufacturer's factory. This certification is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Oceania of the product acceptance by Authorities Having Jurisdiction.

CERTIFICATE OF CONFORMITY

IAPMO Oceania hereby grants to:

Saint-Gobain PAM (Jiangsu) Pipelines Technology Co., Ltd

Room 1808, 18th Floor, Building No. 5, Zi Yun Wisdom Plaza, No. 19 Kazimen Avenue
Qinhuai District, Nanjing, Jiangsu 210022 China

the right to use the WaterMark in accordance with the ABCB Manual for the WaterMark Certification Scheme; Australian Standards WaterMark Technical Specifications and the Plumbing Code of Australia; only in respect of the certified products as described in the WaterMark Certificate of Conformity - Schedule of Certified Product (Refer also IAPMO Product Listing Directory). The Certificate is granted subject to the rules governing the WaterMark Certification Scheme and the Terms and Conditions of the Approved User Agreement and IAPMO Oceania's WaterMark Governance Rules.

Evaluated to:

**AS/NZS2280:2020 (+A1)
Ductile iron pipes and fittings**

Manufacturer:

Refer to licence holder

Licence No.: WM-032254

First Certified: 27 October 2022

Certification Date: 27 October 2022

Expiry Date: 26 October 2027

CEO, The IAPMO Group

This WaterMark certification is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO Oceania, or any evidence of non-compliance with applicable Standards, Specifications or of inferior workmanship, may be deemed sufficient cause for revocation of this certification. Reproduction of or reference to this certificate for advertising purposes may be made only by specific written permission of IAPMO Oceania. Any alteration of this certificate could be grounds for revocation of this certification.

This certificate is issued by a JAS-ANZ accredited Conformity Assessment Body. The ABCB and JAS-ANZ do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The ABCB disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate.

IAPMO OCEANIA

7-11 Fullard Road, Narre Warren, Victoria 3805 Australia



IAPMO Oceania is a product certification body which inspects and arranges for the independent laboratory testing of samples taken from the manufacturer's stock or from the market or a combination of both, to verify compliance of the requirements of applicable standards and specifications. This activity is coupled with periodic surveillance of the certified product taken from the market place or the manufacturer's factory. This certification is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Oceania of the product acceptance by authorities having jurisdiction.

WATERMARK LICENCE

IAPMO Oceania hereby grants to:

Saint-Gobain PAM (Jiangsu) Pipelines Technology Co., Ltd

Room 1808, 18th Floor, Building No. 5, Zi Yun Wisdom Plaza, No. 19 Kazimen Avenue,
Qinhuai District,, Nanjing, Jiangsu 210022 China

the right to use the WaterMark in accordance with the Procedure for Certification of Plumbing and Drainage Products- WaterMark Technical Specification and the Plumbing Code of Australia only in respect of the certified products as described in the attached WaterMark Schedule. The Licence is granted subject to the rules governing the WaterMark Certification Scheme and the Terms and Conditions for WaterMark Certification.

Evaluated to:

AS/NZS 2638.2:2011 (amdt 1)

Gate valves for waterworks purposes Part 2: Resilient seated

Manufacturer:

Saint-Gobain PAM (Jiangsu) Pipelines Technology Co., Ltd

Licence No.: WM-032288

First Certified: 15 August 2023

Certified Date: 15 August 2023

Expiry Date: 14 August 2023


CEO, The IAPMO Group

This WaterMark certification is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO Oceania, or any evidence of non-compliance with applicable standards, specifications or of inferior workmanship, may be deemed sufficient cause for revocation of this certification. Reproduction of or reference to this certificate for advertising purposes may be made only by specific written permission of IAPMO Oceania. Any alteration of this certificate could be grounds for revocation of this certification.

Appendix 3 – An example of Installation Instructions



Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023



INSTALLATION ADVICE

(Read in conjunction with BSEN12056-3)

The purpose of this Guide is to provide detailed information and clear instructions to assist the installer, with methods, to simplify the installation being achieved.

Its objective is to provide the user with all the necessary advice to ensure a trouble-free and quality installation.

For full product range see product manual.

TECHNICAL/PLUMBING ADVISORY SERVICE

In support of Saint-Gobain Pipelines' extensive manufacturing resources a plumbing advisory service is available to customers to provide technical assistance and guidance on installation.

Telephone Helpline: 01952 262529.

ENQUIRIES/SALES: Saint-Gobain Pipelines,
Lows Lane, Stanton-by-Dale, Ilkeston, Derbyshire, DE7 4QU.

Telephone: 0115 930 5000. Fax: 0115 932 9513.

Website: www.saint-gobain-pipelines.co.uk

GENERAL

When working on gutters or fascias at height it is advisable to use scaffolding in preference to ladders. If you are using a ladder please take the following points into consideration:

(These points are for guidance only)

1. Ensure the ladder is based on level ground, preferably not soil or grass. If the ladder is based on soil or grass then place a board beneath the legs to spread the load and prevent sinking.
2. If possible, tie the top of the ladder to ring bolts at eaves level.

Before fitting pipes/gutters, ensure that all pieces have been primed and painted, including all cut ends to prevent corrosion. If any pipes/gutters have been cut/drilled, ensure that there are no loose filings on the system as these will quickly discolour the product.

3. We strongly recommend that you do not work alone. Removal and installation of cast iron guttering generally requires two people.

Before replacing an existing system it is advisable to inspect and repair fascia and wall faces before beginning a new installation. All fascias must be in good condition before new guttering is installed as the weight of the cast iron gutters could cause rotten fascia to fall causing damage or injury to property or persons below.

If the building does not have fascia boards, contact your local builders merchant for advice on suitable support brackets, or contact our Technical Advisory department on **01952 262529**.

GUTTER INSTALLATION

STEP 1

Identify route which rainwater will take.

STEP 2

Locate gully/connection to drain and position outlet, taking into account offset projection. (Fig. 1)

STEP 3

Approximately 75mm - 100mm from the end of the run fit a bracket, taking into account the fall down to the outlet.

Note: For other brackets see "General Notes" (Page 1).

Fix the remaining gutter brackets at maximum centres of 900mm (more frequently in areas prone to high snowfall) along the fall line (as shown in Fig. 2).

Additional brackets should be fitted at a maximum of 150mm from angles and outlets (as shown in Fig. 3). Brackets should be fixed using corrosion resistant wood screws 5mm x 25mm round or pan headed.

Use plumb line or string for alignment when bracketing.

Please Note: When using OG and moulded profiles, we recommend that fascia brackets are used wherever possible.

Fig. 1

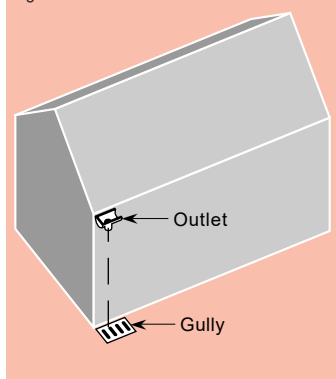


Fig. 2

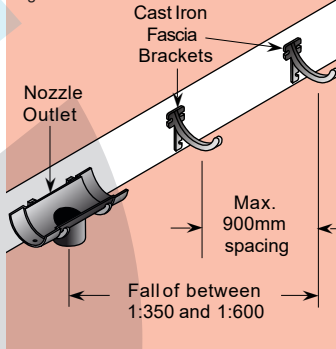
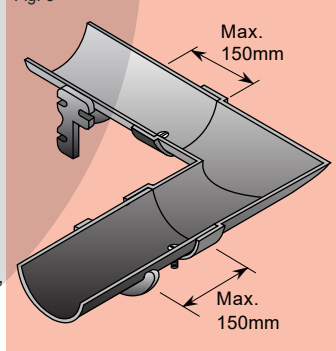


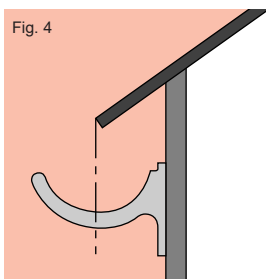
Fig. 3



STEP 4

Ensure brackets are installed so that centre of gutter is beneath the tile edge. (Fig. 4)

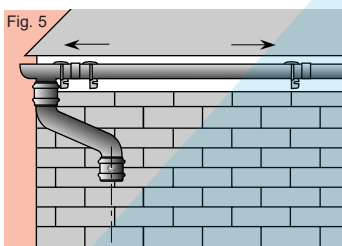
See installation advice, general re: FasciaBoard (Page 1).



STEP 5

Position gutters loosely within brackets and assess installation for fall and offset position to rainwater pipe.

Make adjustments as required. (Fig. 5)

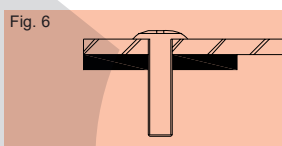


JOINTING

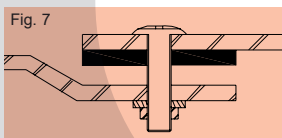
HALF ROUND PROFILE

If installing Half Round Profile Gutters, The **New Castlron Jointing Kit** (Product Code 09027) can be used as an alternative to the traditional method. Kit contains enough materials to seal 20 Half Round Gutter Joints (and is suitable for the 100, 115 and 125mm HR sizes. For 150mm HR, see Fig. 10).

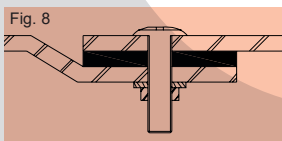
1. Push screw through spigot of gutter or fitting and then through the hole in the gasket material. The hole in the gasket is a tight fit and will locate on the screw while the joint is being made. (Fig. 6)



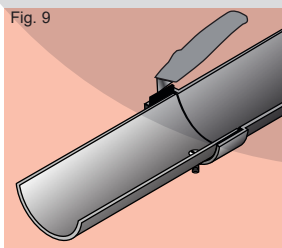
2. Locate the screw, seal and spigot of the gutter or fitting into the socket of the gutter or fitting and fix square nut and washer to the end of the screw. (Fig. 7)



3. Ensure the seal is sitting squarely in the socket and tighten the nut on the screw. (It may be necessary to hold the screw with a screw driver as the seal is compressed. (Fig. 8)



4. Trim excess rubber at the edge of the joint with a sharp bladed knife. (Fig. 9)

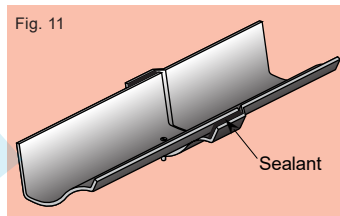
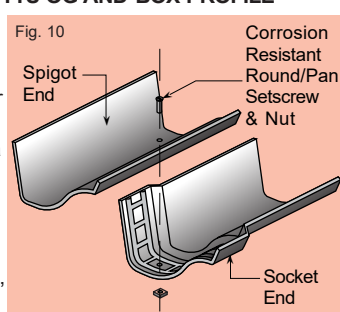


5. Paint gutters, joint and screws as per Installation Guide. The new *Classical Gutter Jointing System* has been designed to satisfy the requirements of the latest BS460 draft standard.

BEADED HALF ROUND, DEEP HALF ROUND, MOULDED N0.46, OG, NOTTS OG AND BOX PROFILE

Gutter sockets should be joined to spigots with a specialist rubberised bitumen gutter sealant or a low modulus silicon sealant, then fixed with a corrosion resistant round/pan head setscrew and nut, M6 x 20mm long. (Fig. 10)

Spread sufficient sealant within the socket, applying additional sealant under the head of the setscrew, when bringing the parts together. The nut should then be finger tightened. Any excess that appears should then be removed. Allow the sealant to 'cure' and then tighten the nut and bolt. Do not over-tighten as this could damage the gutter. (Fig. 11)



Repeat this procedure for all joints.

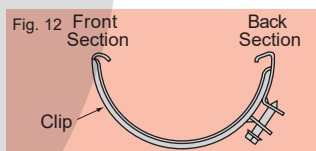
See notes regarding replacement gutters.

Note: Before installing gutters and fittings, ensure that all pieces have been suitably painted. See painting finish methods. If any gutters have been cut, ensure that there are no loose filings on the system as these will quickly discolour the product.

CLASSICAL EXPRESS CLIP ASSEMBLY

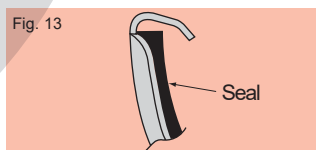
STEP 1

Slacken bolt to the fullest extent (Fig. 12).



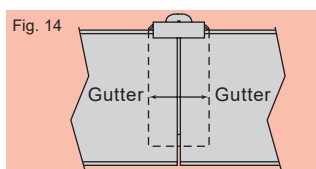
STEP 2

Locate the gasket centrally within the clip assembly ensuring the seal ends are positioned within the locating lugs (Fig. 13).



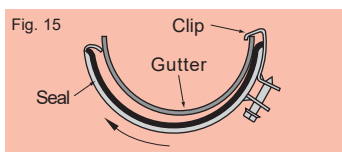
STEP 3

Locate the black section on the rear gutter edge and ensure clip is positioned equal distant to each end of the gutter. Note: In the case of fittings, use the joint location lugs as a guide (Fig. 14).



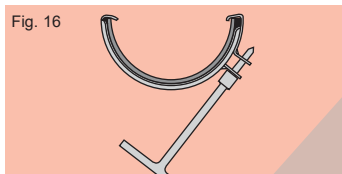
STEP 4

Bring the front section forwards and clips onto the front edge of the gutters. Re-check the position and bolt up tight (Fig. 15).



STEP 5

Typical appearance of assembled joint (Fig. 16).

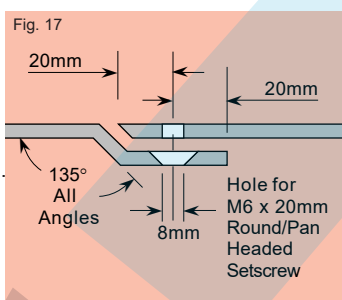


DRILLING GUTTERS

Hole size is 8mm (5/16") and should be positioned centrally 20mm from the spigot of the gutter (Fig. 17).

The hole in a fitting socket will provide a useful template.

We recommend the use of tungsten tipped drills.

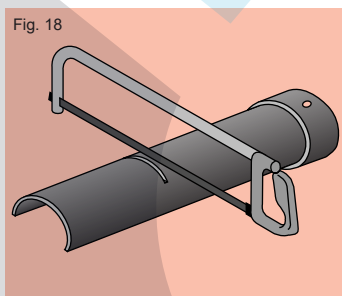


CUTTING

Gutters can be cut using a hacksaw, the blade should be tungsten tipped with 50 teeth per inch.

A powered saw or disc cutter can be used.

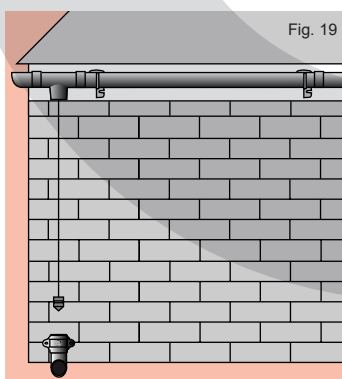
Note: Please observe the necessary safety precautions recommended by the tool manufacturer.



PIPE INSTALLATION (BOTTOM UP)

STEP 1

Using plumbline from centre of nozzle / offset, determine position of shoe or connection to drain. (Fig. 19)

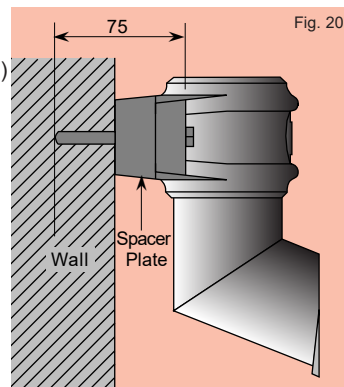


STEP 2 (EARED PIPE)

Determine the position of the fixings and drill suitable holes to take rawlplugs or anchors. 8mm x 50mm min. non corrosive fixing should be used without wall spacer

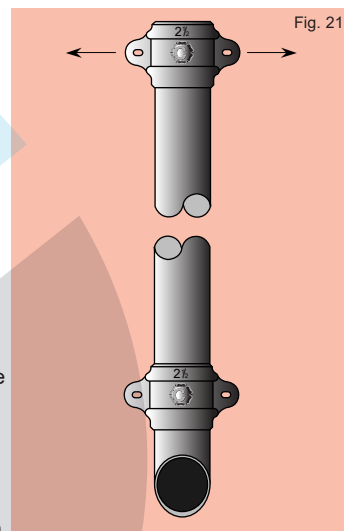
plate, 8mm x 75mm min. non corrosive fixing with wall spacer plate. (Fig. 20)

Note: Cast Iron Spacer plates may be required if wall is uneven and will also allow for easier maintenance. These should be fixed with the flat back plate to the back of the pipe ear.



STEP 3

The pipe spigot is offered into the shoe socket and positioned in line with the plumbline, hole centres are then marked through centre of elongated holes in ears, this will allow for adjustment. (Fig. 21)



STEP 4

Drill and fix as shoe.

STEP 5

Repeat until last full length is fixed, ensuring in each case that the pipe spigot is fully seated in supporting socket.

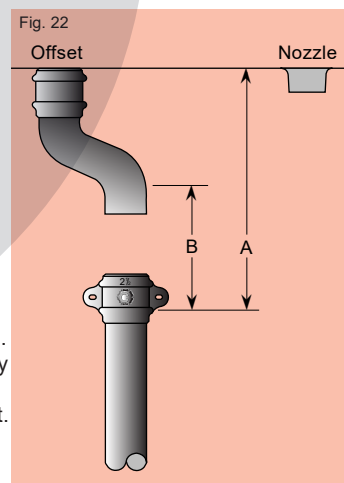
STEP 6

The last pipe length should be measured from the internal base of the socket to the underside of the gutter nozzle (A), or to the spigot of the offset (B), remembering to include the depth of socket in overall length. (Fig. 22)

STEP 7

Cut pipe to length allowing 5mm for clearance on length and fix as previously described.

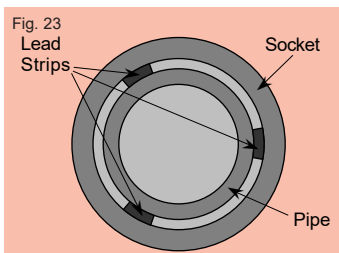
Note: It may be necessary to lift gutter to locate nozzle in the pipe socket.



STEP 8

Finally, to centralise and secure pipe joints, use wedges made up from sheet lead cut into 30mm strips, rolled and tapped, between socket and pipe.

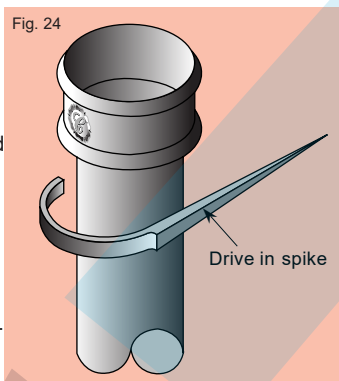
This should be inserted in 3 places to avoid any rattle. (Fig. 23)



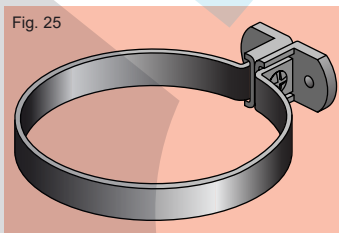
UNEARED PIPE FIXING

These can be fixed using a drive in spike (tradename, Holdfast), wrought iron or galvanised mild steel. (Fig. 24)

A wall fixing bracket made in galvanised mild steel can also be used by drilling suitable holes and inserting rawlplugs to take 50mm (depth) screw. The bracket will then be located to the back plate supplied. (Fig. 25)



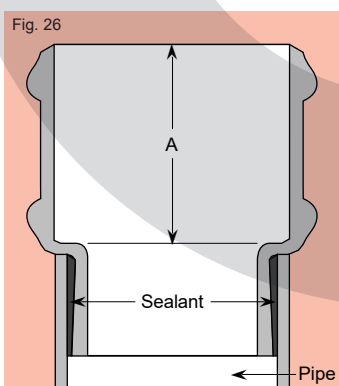
Note: For rectangular pipes, a cast iron decorative ear band can be supplied by Saint-Gobain Pipelines for fixing pipes to the wall.



LOOSE SOCKETED PIPE FIXING (BOTTOM UP)

Installation is as for Classical fixed socketed pipe, the loose socket, however, is loosely inserted into the pipe before establishing fixed centres.

The socket will perform without the need for filling in the vertical position, but if preferred a suitable low modulus sealant or filler can be used.

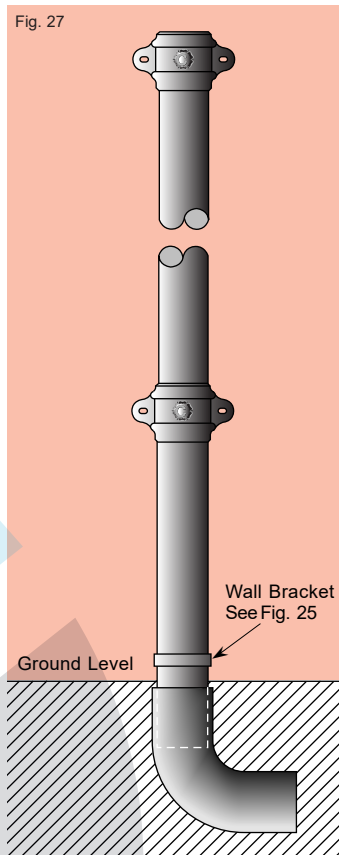


To establish pipe length required, loosely insert socket and follow Step 6 in Fixed Socket Section.

Note: Allowances for socket depths, refer Dimension A. (Fig. 26)

Note: When cutting pipe to length, ensure cut ends are clean and square to give a neat appearance. Any gaps can be filled using a proprietary mastic filler for external use.

In a situation where the connection at the base of the rainwater stack runs into the drain inlet, a galvanised steel wall fixing bracket or eared access pipe (100mm only) will be required to retain pipe barrel. (Fig. 27)

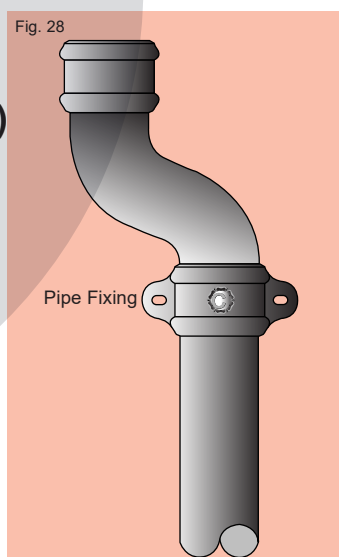


TOP DOWN FIXING (FIXED SOCKET)

This is the reverse procedure to the previous section. The first pipe to be fixed is positioned and marked relative to the offset/gutter nozzle. (Fig. 28)

The process is repeated up to the last full pipe length.

The pipe at the base of the stack will have to be cut to length relative to the shoe.



LOOSE SOCKETED PIPE (TOP DOWN)

STEP 1

The loose socket is located and fixed so that it fully supports the offset, or is located beneath the nozzle.

STEP 2

A pipe barrel is then inserted into the inlet of the loose socket.

STEP 3

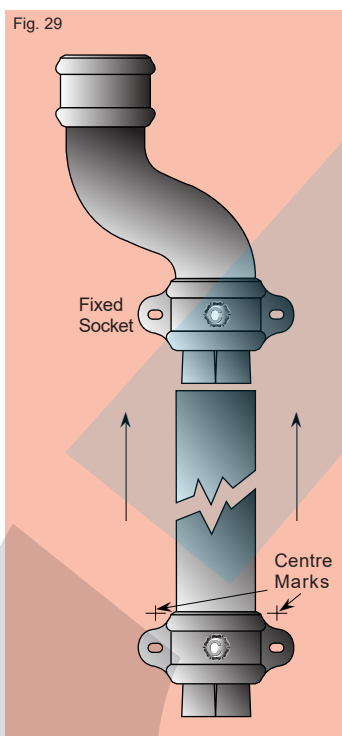
Both pipe and socket are then offered to the fixed socket spigot ensuring that the pipe end is located to the underside of the fixed socket.

STEP 4

Holes on the loose socket are marked, drilled and socket is then fixed.

STEP 5

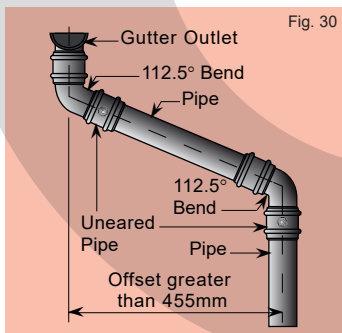
This is repeated until stack is completed.



ADDITIONAL INFORMATION

MAKING UP OFFSETS

When the projection of the fascia is in excess of 455mm the offset is formed with a pipe offset, and two 112 1/2 bends (as shown in Fig. 30).

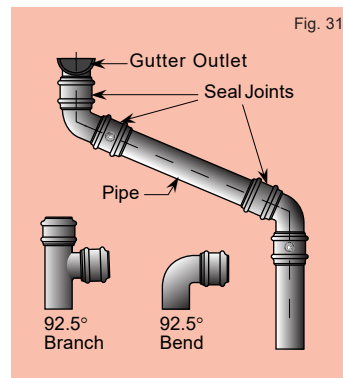


SEALING PIPE JOINTS

With vertical pipes, joints are usually left unsealed in the sockets so that if any blockages occur the rainwater pipe does not fill up with water to the eaves and create a nuisance.

Only seal joints between gutter outlet and rainwater pipe or offset. (Fig. 31)

Also, any joint which is in the horizontal position such as 90° Branch arms or Bends etc.



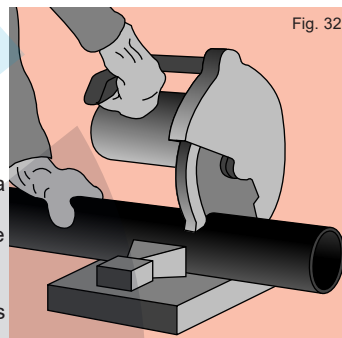
CUTTING PIPE

How do you cut a length of cast iron pipe or gutter? With pipe there are three methods.

Firstly the easiest and quickest way is by using a powered disc cutter or metal saw (as shown here Fig. 32).

Secondly, by pipe wheel cutter, which takes slightly more time but gives a neat square edged cut.

Thirdly, by hacksaw, although a tungsten tipped or 50 TPI blade is usually required.



Note: Snap cutters are not recommended for use on cast iron pipes etc., and safety equipment, for instance eye protection, should be worn at all times.

Always follow guidelines laid down in health and safety regulations.

PAINTING/FINISH METHODS

Classical cast iron rainwater systems are supplied in a black primer coating or in "Plus" finish (a semi-gloss, black topcoat) - available on Express, standard HR and Ogee gutters and fittings and circular downpipes and fittings.

Painting- (on site, prior to installation)

When preparing the pipe, gutter and fittings for the on-site finishes, inspect the products, wire brush and touch up the factory applied primer coating, with a metal primer, (if and where necessary) after first ensuring all surfaces are degreased with thinners and are dust free.

Apply an undercoat (usually 2 coats), before finishing the product with a top coat to suit the building decor. We recommend that only a suitable, good quality paint finish is used to ensure minimal maintenance.

Please note that extra care should be given where cast iron is being installed in exposed coastal areas.

Always consult paint manufacturers' recommendations. Some exterior paints may not be suitable for painting over the water-based primer.

Saint-Gobain Pipelines does not accept any responsibility for the performance of any customer-applied, finished coat systems. It is the responsibility of the installer/purchaser to examine and repair any coating damage to the factory-applied primer coating, before applying further primer and top coats prior to installation.

CLASSICALPLUS (Finish Coat)

- Product is supplied wrapped to protect from physical damage
- Install as Classical
- Following installation it is important that any slight installation damage to the coating is repaired with the appropriate quick drying touch up paints available. Product Code 09680 (Primer) and 09681 (Top Coat).

MAINTENANCE

Castiron rainwater gutter systems are designed and manufactured to give many years of reliable service, but to achieve this, regular inspection and minimal routine maintenance should be carried out including:

1. Annually check and clear the gutter systems & rainwater heads of any leaves and debris that could cause a potential blockage (may require more checks if in close proximity of trees etc).
 2. Also inspect the condition of the paintwork at the same time as 1. wiping clean any film built up, to protect the surface finish.
 3. Also check on security of fixings and joints.
- If the manufacturer's installation and paint suppliers instructions are adhered to re-painting should not be required for approx 5 years or longer. (Unless subject to aggressive atmospheric conditions i.e. coastal towns and providing the integrity of the finish coat is maintained).













































































































































EQUIPMENT REQUIRED

TOOLS

Drill
Screwdriver
Adjustable Spanner
Hacksaw - Disc Cutter
Wirebrush
Plumbline
Pencil / Marker
Ladder
Scaffold
Paint Brush
Scraper
Spirit Level
Tape Measure

MATERIALS

Classical gutters and rainwater fittings etc.
Paint - metal primer, undercoat, topcoat
Mastic Sealant - low modulus (suitable for overpainting)
Setscrews and Nuts (gutter bolts 6mm x 25mm long)
Wall Anchors - for pipe sockets (50-75mm min. length)
Lead strips - to wedge in sockets
Round headed wood screws (5mm x 25mm long)
Round/Pan headed setscrews (6mm x 20mm long)

PRODUCTS	SIZES	PRODUCTS	SIZES
CLASSICAL RAINWATER PIPES (A585)*		OFFSETS (A594)*	
 Single Socket Eared (overall length)	65	 75 projection	65
 1829mm	75	 75 projection	100
 1829mm	100	 115 projection	65
 Single Socket No Ears (overall length)	65	 115 projection	75
 1829mm	75	 115 projection	100
 1829mm	100	 150 projection	65
 1829mm	100	 150 projection	75
 1829mm	100	 150 projection	100
PLAIN BARRELS*		OFFSETS*	
 (overall length)	65	 225 projection	65
 1750mm	75	 225 projection	75
 1750mm	100	 225 projection	100
LOOSE SOCKETS (A586)*		 305 projection	65
 Eared	65	 305 projection	75
 Eared	75	 305 projection	100
 Eared	100	 380 projection	65
 No Ears	65	 380 projection	75
 No Ears	75	 380 projection	100
 No Ears	100	 455 projection	65
WALL SPACERPLATE (A584)*		 455 projection	75
 Castiron - for use with eared pipes and shoes	65	 455 projection	100
 for use with eared pipes and shoes	75	GALVANISED STEEL WALL-FIXING BRACKET (A548)*	
 for use with eared pipes and shoes	100	 65	65
SHOES FRONT (A588)*		 75	75
 Eared	65	 100	100
 Eared	75	DRIVE-IN SPIKE (A459)	
 Eared	100	 65	65
 No Ears	65	 75	75
 No Ears	75	RAINWATER DIVERTER KIT (A593)*	
 No Ears	100	 65	65
 Eared	75	 75	75
 Eared	65	 Eared	65
 Eared	75	 Eared	75
 Eared	100	ACCESS PIPE (A590)*	
 Eared	100	 No Ears	65
ACCESS PIPE (A590)*		 No Ears	75
 No Ears	65	 No Ears	100
 No Ears	75	 Eared	65
 Eared	75	 Eared	75
 Eared	100	 Eared	100
BENDS (A591)*		BENDS (A591)*	
 92 1/2°	65	 92 1/2°	65
 92 1/2°	75	 92 1/2°	75
 92 1/2°	100	 92 1/2°	100
 112 1/2°	65	 112 1/2°	65
 112 1/2°	75	 112 1/2°	75
 112 1/2°	100	 112 1/2°	100
 135°	65	 135°	65
 135°	75	 135°	75
 135°	100	 135°	100
BRANCHES (A592)*		 135°	65
 92 1/2°	65	 135°	75
 92 1/2°	75	 135°	75
 92 1/2°	100	CLASSICAL PIPES (A601)	
 112 1/2°	65	 Rectangular & Fittings	100 x 75
 112 1/2°	75	 Eared	100 x 75
 112 1/2°	100	 Rectangular	100 x 75
 135°	65	 No Ears	100 x 75
 135°	75	HEADS	
 135°	100	 Flat Hopper (A750)*	
HEADS		 210 x 160 x 185	65
 Flat Hopper (A750)*		 210 x 160 x 185	75
 210 x 160 x 185	65	 250 x 215 x 215	100
 210 x 160 x 185	75	 Flat Rectangular Box (A841)*	
 250 x 215 x 215	100	 225 x 125 x 125	65
 Flat Rectangular Box (A841)*		 225 x 125 x 125	75
 225 x 125 x 125	65	 Flat Rectangular Box (A842)*	
 225 x 125 x 125	75	 280 x 150 x 130	100
 Flat Rectangular Box (A842)*		 Rectangular (A484)*	
 280 x 150 x 130	100	 300 x 250 x 200	65
 Rectangular (A484)*		 300 x 250 x 200	75
 300 x 250 x 200	65	 300 x 250 x 200	100
 300 x 250 x 200	75	 Castellated Rectangular (A485)*	
 300 x 250 x 200	100	 250 x 180 x 175	65
 Castellated Rectangular (A485)*		 Rectangular (A485)*	
 250 x 180 x 175	65	 250 x 180 x 175	75
 Rectangular (A485)*		 250 x 180 x 175	100
 250 x 180 x 175	75		
 250 x 180 x 175	100		

* These products are available primer coated or "Plus" finish

PRODUCTS	SIZES	PRODUCTS	SIZES
HR GUTTER & CONNECTIONS			
Half Round Gutter (G800)*		Dropend with socket (G807)*	
1829mm length	100	65mm outlet	100
1829mm length	115	65mm outlet	115
1829mm length	125	75mm outlet	125
1829mm length	150	75mm outlet	150
		100mm outlet	150
Right Angle Double Socket (G802D)*		Dropend with spigot (G808)*	
90°	100	65mm outlet	100
90°	115	65mm outlet	115
90°	125	75mm outlet	125
		75mm outlet	150
Right Angle Single Socket (G801)*		100mm outlet	150
90°	100	Fascia Bracket (G809)*	
90°	115		100
90°	125		115
90°	150		125
Left Angle Single Socket (G802)*			150
90°	100	CastIron Gutter	
90°	115	Joining Kit (G873) NEW	
90°	125		100
90°	150		115
Right Angle Single Socket (G801)*			125
135°	100	OG GUTTER & CONNECTIONS (G840)*	
135°	115	1829mm length	100
135°	125		115
135°	150		125
Left Angle Single Socket (G802)*		Angle Internal (G841)*	
135°	100	90°	100
135°	115	90°	115
135°	125	90°	125
135°	150	Angle Internal (G841)*	
Union Clip (G803)*		135°	100
	100	135°	115
	115	135°	125
	125	Angle External (G842)*	
	150	90°	100
Stopend for Spigot (G804)*		90°	115
	100	90°	125
	115	Angle External (G842)*	
	125	135°	100
	150	135°	115
Stopend for Socket (G805)*		135°	125
	100	Angle External (G842)*	
	115	135°	100
	125	135°	115
	150	135°	125
Nozzle (G806)*		Union Clip (G843)*	
65mm outlet	100		100
65mm outlet	115		115
65mm outlet	125		125
65mm outlet	100		
75mm outlet	115		
75mm outlet	125		
75mm outlet	150		
75mm outlet	125		
100mm outlet	150		

* These products are available primer coated or "Plus" finish

PRODUCTS	SIZES	PRODUCTS	SIZES
		Classical EXPRESS	
Stopend for Socket (G844)*		Transitional Clip (G883)*	
	100	Connect to 115mm & 125mm BS460 half round gutter	125
	115	Nozzle (G885)*	
	125		125 x 75
Stopend for Spigot (G845)*		Fascia Bracket (G886)*	
	100		125
	115	Joining Clip (G887)*	
	125	Complete with Gasket Seal	125
Nozzle (G846)*		6 pack of spare Gasket Seals (09214)	
65mm outlet	100	T Spanner (09217)	
65mm outlet	115		
65mm outlet	125		
75mm outlet	125		
Fascia Bracket (G849)*			
	100		
	115		
	125		
OTHER GUTTER PROFILES		DIMENSION (SIZE) KEY:	
DEEP HR GUTTER & CONNECTIONS (G810)		Pipe:	
	100 x 75	65mm - 2 1/2" imperial size	
	125 x 75	75mm - 3" imperial size	
3mm THICK HR DOUBLE BEADED GUTTER & CONNECTIONS (G820)		100mm - 4" imperial size	
	100	100 x 75mm - 4" x 3" imperial size	
	115	Gutter:	
	120	100mm - 4" imperial size	
No 46 MOULDED GUTTER & CONNECTIONS (G830)		115mm - 4 1/4" imperial size	
	100 x 75	125mm - 5" imperial size	
	125 x 100	150mm - 6" imperial size	
NOTTS OG GUTTER & CONNECTIONS (G850)		100 x 75mm - 4" x 3" imperial size	
	1829mm length	125 x 75mm - 5" x 3" imperial size	
BOX GUTTER & CONNECTIONS (G860)		125 x 100mm - 5" x 4" imperial size	
	1829mm length	<i>Half Round and common Ogee gutters and connections are manufactured in accordance with BS460</i>	
	100 x 75	<i>All products are supplied in a black primer coating</i>	
Gutter (G880)*			
1830mm length	125		
90° Angle (G881)*			
	125		
45° Angle (G882)*			
	125		

* These products are available primer coated or "Plus" finish

Appendix 4 – Terms and conditions of sale, including warranty statement



Document type	Revision	Revision date
Product Technical Specification & BPIR PAM-Ensign cast-iron pipe & fittings	v 1	12 December 2023

STANDARD CONDITIONS OF SALE

1. DEFINITIONS

1.1 The “Buyer” means the other company person firm organisation or public authority specified in the order or being a party to any contract to which these terms and conditions apply.

1.2 The “Company” means Saint-Gobain Construction Products UK Limited, (a company registered in England with number 734396), trading as Saint-Gobain PAM UK, Registered Office: Saint-Gobain House, East Leake, Loughborough, Leicestershire LE12 6JU.

1.3 The “Contract” means the contract for the sale of the Goods comprising these standard conditions of sale together with any special conditions agreed by the Company in writing and included on the Order Acknowledgment.

1.4 The “Goods” means the goods specified on the Company’s Order Acknowledgement.

1.5 The “Order” means the order for Goods submitted to the Company by the Buyer.

1.6 The “Order Acknowledgement” means the order acknowledgement issued by the Company in response to the Buyer’s Order.

2. PRICE

2.1 The price payable by the Buyer for the Goods shall be the Company’s price notified on the Order Acknowledgement, unless expressly provided otherwise in writing by the Company.

2.2 Unless notified otherwise to the Buyer, prices quoted are inclusive of carriage within mainland U.K. However, the Company reserves the right to make an additional charge in exceptional circumstances or for deliveries outside mainland U.K.

2.3 All prices quoted are exclusive of VAT unless otherwise stated and VAT and any other tax or duty relating to the sale or delivery of the Goods shall be added to the price payable by the Buyer.

2.4 Where the Company invoices the Buyer for export Goods which are VAT exempt and VAT subsequently becomes payable, the Company may invoice the Buyer for a sum equivalent to the VAT which becomes payable and such sum shall be payable within 14 days of the date of the invoice.

3. TERMS OF PAYMENT

3.1 Payment shall be made in full by the end of the calendar month following the month in which the Goods were delivered (in accordance with clause 4.2).

3.2 Without prejudice to its other rights and remedies, in the event of late or non-payment the Company shall be entitled to:

(a) charge interest on overdue accounts at 4% over the current base rate of the Lloyds TSB Bank plc, and/or

(b) suspend outstanding deliveries under this Order or any other order the Buyer has placed with the Company, and/or

(c) set-off any amounts the Company owes the Buyer by way of rebate payments or any other monies due from the Company to the Buyer against any monies owed by the Buyer to the Company.

3.3 The Company shall be entitled, at its reasonable discretion, to withdraw credit facilities at any time in which event all sums outstanding from the Buyer to the Company (whether or not due and whether relating to this Contract or any other contract) shall forthwith become due and payable.

4. DELIVERY

4.1 The Company will use all reasonable endeavours to deliver the Goods on the date or dates specified in the Order and will specify on the Order Acknowledgement the Company’s best estimate of delivery dates. However, for the avoidance of doubt, time of delivery shall not be of the essence of the Contract.

4.2 Unless otherwise agreed in writing, delivery shall be deemed to take place on the physical handing over of the Goods to the Buyer or the Buyer’s designated carrier or agent or on transferring

the Goods into storage at the Buyer's request, or in accordance with clause 4.4 below (whichever is the earlier).

4.3 Where the Order provides for delivery to the Buyer's premises or to site, unless otherwise agreed in writing, the Buyer shall be responsible for:-

- (a) the costs and provision of suitable offloading equipment and manpower.
- (b) safe access to the offloading area which must be suitable for the purposes of delivery and offloading, and
- (c) ensuring that the offloading is completed by the Buyer and without undue delay. In the event of delays in offloading the Buyer shall be liable for the costs of any such delay.

4.4 If for any reason the Buyer shall fail to take or refuses to accept delivery of any of the Goods the Company may:

- (a) invoice the Buyer for the value of the Goods and then store such Goods until actual delivery and charge the Buyer reasonable costs (excluding insurance) of storage and re-delivery, or
- (b) without affecting the continuation of the Contract, sell the Goods.

5. DAMAGE OR LOSS IN TRANSIT

5.1 Where the Company agrees in writing to be responsible for the transportation of the Goods to the Customer or any place, the Company will only entertain a claim by the Buyer for damage in transit to or non-delivery of the Goods provided the Buyer:

- (a) in respect of non-delivery, gives written notice to the Company within 10 days after the date of the Company's advice note or invoice advising of the despatch of the Goods that such Goods have not been received, or
- (b) in respect of damage in transit gives written notice to the Company, within 3 days after delivery of the Goods.

6. FORCE MAJEURE

The Company shall not be liable for any failure or delay in manufacture and/or delivery of any of the Goods if it is prevented or hindered in manufacturing and/or delivering the Goods directly or indirectly by fire, the elements, war, civil commotion, national strikes, lock outs or industrial disputes, major failure of plant or machinery, late receipt of necessary information from the Buyer, acts, orders or regulations of Government, or any cause whatsoever beyond the reasonable control of the Company, then time for the delivery of the Goods shall be extended for a reasonable period.

7. RISK AND PROPERTY

7.1 Risk of damage to or loss of the Goods shall pass to the Buyer on delivery.

7.2 The Buyer shall become the legal owner of the Goods only when the Company has received full payment, in cleared funds, for the Goods and for all other goods supplied by the Company to the Buyer.

7.3 Following delivery and until legal ownership in the Goods has passed in accordance with clause 7.2 above:

- (a) the Buyer shall store the Goods separately and identifiably as the Company's property, but shall be entitled to resell or use the Goods in the ordinary course of its business; and
- (b) the Company shall be entitled at any time to require the Buyer to make such Goods available for collection and if the Buyer fails to do so immediately the Company may enter any premises occupied or controlled by the Buyer to repossess such Goods.

8. SPECIFICATIONS

Provided that any amended or substitute goods comply in all material respects with any requirements of the Buyer previously made known to the Company in writing and conform to relevant recognised standards and are of reasonably equivalent material and/or finish, the Company may alter the specification of the Goods and/or supply substitute goods without prior reference to the Buyer.

9. SELECTION HANDLING AND INSTALLATION

9.1 The Company provides a range of technical guidance in the form of brochures and oral and written advice from its Technical Department ("Technical Guidance"). However, the Technical Guidance is advisory only and shall not be deemed to be a prescription as to how the Goods must be selected, handled and/or installed (whether by the Buyer or any third party) and, save where expressly agreed in writing by the Company, the Buyer shall (whether itself or through a third party) be solely responsible for the selection, safe handling and installation of the Goods and the Company shall not be responsible for any loss or damage incurred or arising from the inappropriate selection, handling or installation of the Goods.

9.2 The Company accepts no responsibility for the adequacy of any special or non-standard specifications laid down by the Buyer to which the Goods may have been manufactured.

10. TERMINATION

10.1 The Contract may be terminated immediately, by either party, on written notice in the event that the other party makes any voluntary arrangement with its creditors or becomes subject to an administration order or (being an individual or firm) becomes bankrupt or (being a Company) goes into liquidation, or if an encumbrancer takes possession, or if a receiver is appointed over any of the property or assets of the relevant party, or the relevant party ceases or threatens to cease to carry on business, or if any similar or analogous event occurs in any jurisdiction PROVIDED ALWAYS that if any of the Goods have been delivered at the time of such termination the price for such Goods shall become immediately due and payable notwithstanding any previous agreement to the contrary.

10.2 Without affecting any other right or remedy available to it, the Company may terminate any Contract with the Buyer with immediate effect by giving written notice to the Buyer if the Buyer commits a material breach of any term of these conditions and/or the Contract which breach is irremediable or (if such breach is remediable) fails to remedy that breach within a period of seven (7) days after being notified in writing to do so.

11. CANCELLATION CHARGES

In the event that either party seeks to cancel the Contract or any part of it, for any reason otherwise than in accordance with clause 10, then the other party may, in its discretion, agree to such cancellation on such terms as it seems fit, including as to indemnification against all costs, expenses and loss of profits arising from such cancellation. Suspension of deliveries, withdrawal of credit facilities or sale of the Goods in accordance with clauses 3.2, 3.3 and 4.4(b) shall not constitute cancellation of the Contract for this purpose.

12. WARRANTY

12.1 The Goods are warranted (subject to clauses 12.2 and 13 below):

(a) fit for the purpose set out in the BS, EN, Water Industry or International Standard to which they are manufactured and

(b) of satisfactory quality and free from defects in materials and workmanship at the time of delivery.

12.2 The Company shall not be liable for any breach of the warranty in clause 12.1 in respect of any defect in the quality or state of the Goods:

(a) which would be apparent on a reasonable examination, unless the Buyer shall have given to the Company written notice within 14 days after delivery; or

(b) which would not be apparent on a reasonable examination unless such defects shall have been discovered within 12 months after delivery and the Buyer shall have given written notice to the Company within 14 days of such discovery; or

(c) arising from the Goods being modified or otherwise tampered with or stored in unsuitable conditions or for an excessive period or being subject to misuse, faulty installation negligence or accident; or

(d) arising as a result of the Company manufacturing the Goods to a design and/or specification provided by the Buyer.

12.3 All written notices alleging breach of warranty shall specify the matters complained of and the Buyer shall thereafter afford the Company a reasonable opportunity of inspecting the Goods in their allegedly defective or non-compliant state.

12.4 The Company shall at its option and in full satisfaction of any liability arising from any breach of this clause 12, either replace or repair faulty Goods or refund the price (or the relevant part of the price) of the faulty Goods and satisfy any further substantiated claim in accordance with clause 13.

13. LIABILITY

13.1 Nothing in these terms and the Contract shall restrict or exclude a party's liability for: (a) death or personal injury arising out of that party's negligence; (b) fraud; or (c) any matter in respect of which it would be unlawful for the Company to exclude or restrict liability.

13.2 Subject to clause 13.1, the Company shall not under any circumstances be liable for:

(a) any indirect or consequential damages, costs or losses (including, without limitation, loss of business, loss of reputation, loss of anticipated saving and loss of goodwill); or

(b) any direct or indirect loss of profits suffered or incurred by the Buyer; or

(c) any direct or indirect loss arising from any claim made against the Buyer by any third party, arising out of or relating to the Contract, any supply by the Company of defective or damaged Goods, negligence, breach of statutory duty or any other breach or cancellation of the terms of any contract to which these conditions are applicable, whether or not such losses were foreseeable by the Company, except as otherwise provided in these conditions.

13.3 Except for the type of liability referred to at clause 13.1, the Company's total liability in respect of any contractual breach or representation, statement or tortious act or omission arising under or in connection with the Contract (a "Default") shall not exceed the total sums paid or payable by the Buyer to the Company in respect of the quantities of Goods to which the Default relates.

13.4 The parties agree that the limitations of liability in this clause 13 are reasonable in all the circumstances, particularly taking into account the availability of insurance for the Buyer and the price of the Goods offered by the Company.

14. DISPUTE RESOLUTION

If any dispute arises out of the Contract the parties will have good faith discussions to attempt to settle the matter. If these discussions are initially unsuccessful, the parties shall escalate the dispute to their relevant respective directors. If, following such escalation, the parties are still in dispute, the parties shall attempt to settle that dispute by mediation in accordance with the Centre for Dispute Resolution's (CEDR) Model Mediation Procedure.

15. INTELLECTUAL PROPERTY

15.1 The Buyer acknowledges that it shall neither have nor acquire any intellectual or industrial property rights in the Goods, except where the Goods are manufactured to the Buyer's own design and in respect of which the Buyer has provided prior written evidence of the existence of such rights. Where, notwithstanding the provision of written evidence to the contrary, a claim is made against the Company in respect of Goods which were manufactured to the Buyer's own design, the Buyer shall indemnify the Company against all losses, damages, costs (including, without limitation, legal expenses on a solicitor client basis) and expenses awarded against or incurred by the Company in connection with any such claim.

15.2 Where an industrial or intellectual property rights claim is made against the Buyer in respect of Goods which were manufactured to the Company's design, the Company shall indemnify the Buyer against all losses, damages, costs and expenses awarded against or incurred by the Buyer in connection with any claim that the Goods infringe or that their use or resale infringes the patent, copyright, design, trademark, or other industrial or intellectual property rights of any other person provided always that:

(a) the Buyer does not settle such a claim or admit liability in respect of the claim;

(b) the Company is given full control of any proceedings or negotiations in connection with any such claim; and

(c) the Buyer shall (at the Company's cost) provide its reasonable assistance with the defence and/or settling of the claim.

16. WAIVER

No waiver by either party of any breach of the Contract by the other party shall be considered as a waiver of any subsequent breach of the same or any other provision. If any provision of this Contract is held by any competent authority to be invalid or unenforceable in whole or in part the validity of the other provisions of these Conditions and the remainder of the provision in question shall not be affected thereby.

17. CONFIDENTIALITY

17.1 Each party to the Contract shall keep strictly confidential all information concerning the business and affairs of the other obtained from the other either pursuant to the Contract or prior to and in contemplation of it, shall use the same exclusively for the purposes of the Contract, and shall disclose the same only to those of its directors and employees to whom and to the extent that such disclosure is reasonably necessary for the purposes of the Contract.

17.2 The obligations of clause 17.1 above shall survive the expiry or termination of the Contract for a period of 5 years but shall not apply to any information which:

- (a) the recipient can demonstrate was already in its possession and at its free disposal prior to receipt under the circumstances mentioned at clause 17.1 above;
- (b) is subsequently disclosed to the recipient without any obligation of confidence by a third party who has not derived it directly or indirectly from the disclosing party;
- (c) enters the public domain through no act or default of the recipient, its agents or employees; or
- (d) is required by law to be disclosed.

18. THIRD PARTY RIGHTS

The Parties do not intend that any of its terms will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.

19. EXPORT TERMS

19.1 Except as varied by this Contract or otherwise agreed between the parties in writing the export delivery terms used in the Contract such as FOB, CIF and CFR shall have the meanings assigned to them by Incoterms 2010 published by the International Chamber of Commerce.

19.2 Where the Goods are supplied for export from the United Kingdom, the provision of this clause 19 shall (subject to any special terms agreed in writing between the Buyer and the Company) apply notwithstanding any other provision of these Conditions.

19.3 The Buyer shall be responsible for complying with any legislation or regulations governing the importation of the Goods into the country of destination and for the payment of any duties thereon.

19.4 Unless otherwise agreed in writing between the Buyer and the Company, the Goods shall be delivered ex works and the Company shall be under no obligation to give notice under section 32(3) of the Sale of Goods Act 1979 as amended.

19.5 Any maritime insurance required to be effected by the Company under the Contract shall unless otherwise agreed in writing be ten per cent over the invoice price and shall cover the interest from the commencement of transit to the destination named in the Contract as provided and contained in the Institute of London Underwriters ("the Institute") Cargo Clauses (All Risks) including breakage subject to the provision of the cutting clause contained in the relevant insurance policy details of which will be provided upon request the Institute War Clauses and the Institute Strikes Riots and Civil Commotion Clauses current at the time of shipment.

19.6 The Buyer shall be liable for and shall indemnify and hold the Company harmless from any and all liability, loss, claims, damages and costs, which the Company may sustain or incur, arising out of or in any way connected with the Buyer's failure to comply with clauses 19.3 and/or 22.

20. GENERAL

20.1 These terms and conditions together with any amendments agreed and referred to on the face of the Company's Order Acknowledgement shall constitute the entire Contract between the parties and the Buyer agrees and acknowledges that only these terms and conditions shall apply and that any documents received from the Buyer which contain printed or standard conditions have been sent by the Buyer and received by the Company on the sole understanding that they appear on the documents only because they are preprinted thereon and have no contractual effect whatsoever.

20.2 Save as expressly set out in these terms and conditions, or otherwise expressly acknowledged in writing by the Company all other conditions, terms or warranties implied by statute or common law are excluded to the fullest extent permitted by law.

20.3 Both parties acknowledge that the other party will have no liability in relation to any representations made by or on behalf of the other party, save to the extent that such representations are set out in the Contract, or have been set out by the Buyer on its Order and that such representations are expressly acknowledged in writing by the Company.

20.4 If any provision of the Contract is held by any competent authority to be invalid or unenforceable in whole or in part, that provision or part-provision shall, to the extent required, be deemed to be deleted, and the validity of the other provisions of the Contract and the remainder of the provision in question shall not be affected. If any invalid, unenforceable or illegal provision of the Contract would be valid, enforceable and legal if some part of it were deleted, the provision shall apply with the minimum modification necessary to make it legal, valid and enforceable.

20.5 Any notice required or permitted to be given by either party to the other under these Conditions shall be in writing addressed to that other party at its registered office or principal place of business or such other address as may at the relevant time have been notified pursuant to this provision to the party giving the notice. If such written notice is given by facsimile transmission, a copy of that notice must be sent as soon by post as is reasonably possible after such transmission.

21. BRIBERY ACT COMPLIANCE

The Buyer shall ensure that in any dealings with the Company, neither it or its employees or agents shall commit any offence under the Bribery Act 2010 ("the Act") including not engaging in any activity, practice or conduct which would constitute an offence under sections 1, 2 or 6 of the Act. The Buyer shall inform the Company immediately it becomes aware of any actions between the parties that could constitute an offence under the Act.

22. SANCTIONS COMPLIANCE

It is our and our group's policy to comply with all applicable sanctions and legal requirements for the import and export of goods, technology and services. We are committed to ensuring compliance with all regulatory and licensing requirements relating to international trade. We do not permit the supply of any of our goods to any individuals, companies or organisations that are subject to any trade, economic or financial sanctions, embargoes or similar restrictive measures administered, enacted or enforced by the UK, EU, UN or USA ("Sanctioned Entities"). By entering into this Contract you agree not to re-sell or otherwise transfer the Goods, either directly or indirectly, to any Sanctioned Entities.

23. DATA PROTECTION

23.1 For the purposes of this clause 23, (a) "Applicable Data Protection Laws" means (i) to the extent the UK GDPR applies, the law of the United Kingdom or of a part of the United Kingdom which relates to the protection of personal data, (ii) to the extent the EU GDPR applies, the law of the law of the European Union or any member state of the European Union to which the Supplier is subject, which relates to the protection of personal data; in each case, as updated, amended or replaced from time to time; (b) "EU GDPR" means the General Data Protection Regulation ((EU) 2016/679), as it has effect in EU law; (c) "UK GDPR" has the meaning given to it in section 3(10) (as supplemented by section 205(4)) of the Data Protection Act 2018; and (d) the terms "Data Subject", "Personal Data", "processing", "processor" and "controller" shall have the meanings set out in the UK GDPR.

23.2 Each party shall comply with the provisions and obligations imposed on it by the Applicable Data Protection Laws when processing Personal Data in connection with these Conditions. Such processing shall continue for so long as these Conditions are in force and shall be in respect of the following:

- (a) Categories of data: Contacts within each of the parties and the ultimate customer details;
- (b) Types of personal data: names, addresses, email addresses, telephone numbers and other contact details;
- (c) Purpose and nature of processing: (i) manage the Contracts between the parties including ordering, fulfilment and billing and (ii) fulfilment of such Contracts by delivering goods.

23.3 To the extent that a party processes any Personal Data on behalf of the other party, the processing party shall: (a) comply with the provisions and obligations imposed on a processor by the Applicable Data Protection Laws, and any stipulations set out in the Applicable Data Protection Laws as to what shall be included in the contract between the parties shall form a part of, and are incorporated into, these Conditions as if they were set out in full, and any reference to "documented instructions" (or similar) shall include the provisions of these Conditions; and (b) not disclose any Personal Data to any Data Subject or to a third party other than at the written request of the other party or as expressly provided for in these Conditions.

23.4 The Buyer agrees that the Company may engage third party providers including any advisers, contractors, or auditors to Process Personal Data ("Sub-Processors"). The Company shall ensure that its contract with each Sub-Processor shall impose obligations in relation to the Processing of Personal Data on the Sub-Processor that are materially equivalent to the obligations to which the Company is subject to under these Conditions in relation to the Processing of Personal Data.

23.5 If either party receives any complaint, notice or communication which relates to the processing of Personal Data by the other party or to either party's compliance with the Applicable Data Protection Laws, or if any Personal Data processed in connection with these Conditions is subject to a personal data breach (as defined in the UK GDPR), it shall immediately notify the other party and provide the other party with reasonable co-operation and assistance in relation to any such complaint, notice, communication or personal data breach.

24. ENGLISH LAW

This Contract shall be governed by the laws of England and the parties submit all matters in relation to this Contract to the non-exclusive jurisdiction of the English Courts.

Feb 2021